

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re the Application of

Inventor: Chan Wah NG et al.

Art Unit 2617

Appln. No.: 10/561,194

Exr. T. Chambers

Filed: December 16, 2005

Conf. No. 3919

For: MOBILE TERMINAL APPARATUS AND HANDOFF METHOD THEREOF

AMENDMENT UNDER 37 CFR § 1.116 AND  
SUMMARY OF SUBSTANCE OF PERSONAL INTERVIEW

Commissioner for Patents  
P.O. Box 1450  
Alexandria, VA 22313-1450

Sir:

In response to the Final Rejection dated July 21, 2008, the Applicants hereby petition for a one-month extension of time (the fee may be charged to deposit account no. 04-1061 if necessary) and request that the above-captioned application be amended as follows:

## IN THE CLAIMS

Please amend the claims to read as follows:

### Listing of Claims

1. (Previously Presented) A mobile terminal apparatus comprising:

a plurality of interfaces, each interface being capable of, when an associated access mechanism thereof is in an active state, obtaining a connection to a network using one of a home-address and a care-of-address, said home-address being assigned to said interface in advance, said care-of-address being assigned to said interface while said interface is in a domain where the home-address is not available;

an instructing section that instructs a setup of a binding of a home-address of a first interface of said plurality of interfaces and one of a home-address and a care-of-address of a second interface of said plurality of interfaces, said first interface losing a connection obtained through a care-of-address of said first interface; and

a setup section that sets up the binding.

2. (Previously Presented) A mobile terminal apparatus according to claim 1, wherein said instructing section comprises:

a detecting section that detects the loss of the connection obtained through the care-of-address of said first interface;

a searching section that, when the loss of the connection of said first interface is detected, searches for at least one interface whose associated access mechanism is in an active state from among said plurality of interfaces;

a selecting section that selects, based on a predetermined criterion, said second interface from among said at least one interface that has been searched;

a deciding section that decides whether or not the selected second interface is present in a domain where the home-address of said second interface is available; and

a determining section that determines the home-address of said second interface is bound to the home-address of said first interface when said second interface is present in the domain where the home-address of said second interface is available, and that determines the care-of-address of said second interface is bound to the home-address of said first interface when said second interface is not present in the domain where the home-address of said second interface is available, based on a result of the decision by said deciding section.

3. (Original) A mobile terminal apparatus according to claim 1, wherein:

each of said plurality of interfaces predicts a loss of a connection obtained through an assigned care-of-address; and

said instructing section comprises:

a searching section that, when the loss of the connection of said first interface is predicted by said first interface, searches for at least one interface whose associated access mechanism is in an active state from among said plurality of interfaces;

a selecting section that selects, based on a predetermined criterion, said second interface from among said at least one interface that has been searched;

a deciding section that decides whether or not said selected second interface is present in a domain where the home-address of said second interface is available; and

a determining section that determines the home-address of said second interface is bound to the home-address of said first interface when said second interface is present in the domain where the home-address of said second interface is available, and that determines the care-of-address of said second interface is bound to the home-address of said first interface when said second interface is not present in the domain where the home-address of said second interface is available, based on a result of the decision by said deciding section.

4. (Original) A mobile terminal apparatus according to claim 1, wherein said instructing section comprises:

a detecting section that detects the loss of the connection obtained through the care-of-address of said first interface;

a searching section that, when the loss of the connection of said first interface is detected, searches for at least one interface associated with an access mechanism of a different type from an access mechanism associated with said first interface from among said plurality of interfaces;

a selecting section that selects, based on a predetermined criterion, said second interface from among said at least one interface that has been searched;

an activating section that activates an access mechanism associated with said selected second interface;

a deciding section that decides whether or not said selected second interface whose associated access mechanism is activated is present in a domain where the home-address of said second interface is available; and

a determining section that determines the home-address of said second interface is bound to the home-address of said first interface when said second interface is present in the domain where the home-address of said second interface is available, and that determines the care-of-address of said second interface is bound to the home-address of said first interface when said second interface is not present in the domain where the home-address of said second interface is available, based on a result of the decision by said deciding section.

5. (Original) A mobile terminal apparatus according to claim 1,  
wherein each of said plurality of interfaces predicts a loss of a connection obtained through an assigned care-of-address; and  
wherein said instructing section comprises:

a searching section that, when the loss of the connection of said first interface is predicted by said first interface, searches for at least one interface associated with an access mechanism of a different type from an access mechanism associated with said first interface from among said plurality of interfaces;

a selecting section that selects, based on a predetermined criterion, said second interface from among said at least one interface that has been searched;

an activating section that activates an access mechanism associated with the selected second interface;

a deciding section that decides whether or not said selected second interface whose access mechanism is activated is present in a domain where the home-address of said second interface is available; and

a determining section that determines the home-address of said second interface is bound to the home-address of said first interface when said second interface is present in the domain where the home-address of said second interface is available, and determines the care-of-address of said second interface is bound to the home-address of said first interface when said second interface is not present in the domain where the home-address of said second interface is available, based on a result of the decision by said deciding section.

6. (Previously Presented) A handoff method in a mobile terminal apparatus having a plurality of interfaces, each interface being capable of, when an associated access mechanism thereof is in an active state, obtaining a connection to a network using one of a home-address and a care-of-address, said home-address being assigned to said interface in advance, said care-of-address being assigned to said interface while said interface is in a domain where the home-address is not available, the method comprising:

an instructing step for instructing a setup of a binding of a home-address of a first interface of said plurality of interfaces and one of a home-address and a care-of-address of a second interface of said plurality of interfaces, said first interface losing a connection obtained through a care-of-address of said first interface; and

a setup step for setting up said binding.

7. (New) The mobile terminal apparatus according to claim 1, wherein:

when the second interface loses a connection to the network after the setup of said binding is instructed, said instructing section determines occurrence of connection losses of both the first interface and the second interface.

8. (New) The mobile terminal apparatus according to claim 7, wherein:

when the second interface loses the connection to the network after the setup of said binding is instructed, said instructing section subsequently instructs a setup of another binding for each of the first interface and the second interface.

9. (New) The mobile terminal apparatus according to claim 7, wherein:

said instructing section stores information on a state that the first interface has borrowed an address from the second interface after instructing the setup of said binding, and

when the second interface loses the connection to the network after the setup of said binding is instructed, said instructing section determines the occurrence of the connection loss of the first interface based on the stored information on the state.

### REMARKS

Reconsideration and allowance of this application are respectfully requested in light of the above amendments and the following remarks.

At the outset, the Applicants wish to thank the examiner and her supervisor for the courtesy extended to the Applicants' representative during a personal interview conducted on October 14, 2008. The participants in the interview were Examiners Chambers and Corsaro and David Ward. A summary of the substance of the issues discussed during the interview is included in the following.

Claims 7-9 have been newly added. Support for the subject matter of the new claims is provided in the substitute specification filed May 21, 2008, on page 15, lines 18-25. The amendments were not presented earlier due to the unforeseeability of the remarks presented in the Final Rejection. Entry of these amendments is respectfully requested.

Claims 1 and 6 stand rejected, under 35 USC §103(a), as being unpatentable over Lee et al. (US 6,535,493) in view of Dutta et al. (US 2004/0122976). Claims 2 and 3 stand rejected, under 35 USC §103(a), as being unpatentable over Lee et al. (US 6,535,493) in view of Dutta et al. (US 2004/0122976) and Gwon (US 2003/0016655). Claims 4 and 5 stand rejected, under 35 USC §103(a), as being unpatentable over Lee et al. (US 6,535,493) in view of Dutta et al. (US 2004/0122976), Gwon (US 2003/0016655), and Linder et al. (US 2002/0194385). These rejections were discussed during the interview, and the Applicants' representative presented a traversal of the rejections incorporating the following points.

Claim 1 defines a mobile terminal apparatus that binds a home address of a first network interface, which loses network connectivity, and one of a home address and a care-of address of a



second network interface. The claimed subject provides an advantage of enabling a mobile terminal to maintain communication with a network by temporarily borrowing a second network interface address when communication through the address of a first network interface is disrupted, such as when the mobile terminal is experiencing a base station handoff (see original specification page 20, third paragraph). (References herein to the specification and drawings are for illustrative purposes only and are not intended to limit the scope of the invention to the referenced embodiments.)

The Final Rejection acknowledges that Lee does not disclose the Applicants' claimed subject matter of a mobile terminal apparatus that binds a home address of a first network interface, which loses network connectivity, and one of a home address and a care-of-address of a second network interface (see Final Rejection page 3, fifth paragraph, and page 5, lines 1-7).

To overcome this deficiency, the Final Rejection proposes that Dutta discloses the missing subject matter by disclosing a crossover node 214a that updates its routing cache entry with the care-of address of a received message so as to replace an original downlink interface 228 with a new interface 226 pointing towards a base station 216a (see the office action at page 5, lines 6-11).

However, the Applicants note that Dutta's crossover node 214a is a fixed, intermediate node disposed between a base station 216a and a gateway 212c (see Dutta Fig. 2A and paragraph [0036], lines 1-6). Dutta's fixed, intermediate node 214a is not the same as, or similar to, the claimed subject matter of a mobile terminal. Moreover, the Final Rejection offers no motivation for applying Dutta's teachings with regard to a fixed, intermediate node to a mobile terminal. Dutta's disclosure of a crossover node 214a that updates its routing cache entry with the care-of

address of a received message so as to replace an original downlink interface 228 with a new interface 226 pointing towards a base station 216 does not support an ability for a mobile terminal to maintain communication with a network by temporarily borrowing a second network interface address when communication through the address of a first network interface is disrupted, as does the claimed subject matter.

The Applicants further note that Dutta's disclosure of replacing an original interface with a new interface is not the same as, or similar to, the claimed subject matter of binding a home address of a first network interface with a home address or a care-of address of a second network interface. The Applicants' claimed subject matter supports communication through either the first network interface or the second network interface in accordance with the network connectivity status of each interface. Dutta's system replaces an original interface with a new interface such that use of the original interface is lost and only the new interface may provide network connectivity.

Accordingly, the Applicants respectfully submit that the teachings of Lee and Dutta, considered individually or in combination, do not render obvious the subject matter defined by claim 1. Independent claim 6 similarly recites the above-mentioned subject matter distinguishing apparatus claim 1 from the applied references, but with respect to a method. Therefore, the rejections applied to claims 2-6 are obviated, and allowance of claims 1 and 6 and all claims dependent therefrom is considered to be warranted.

In view of the above, it is submitted that this application is in condition for allowance and a notice to that effect is respectfully solicited.

If any issues remain which may best be resolved through a telephone communication, the Examiner is requested to telephone the undersigned at the local Washington, D.C. telephone number listed below.

Respectfully submitted,

/James Edward Ledbetter/

Date: November 5, 2008  
JEL/DWW/att

James E. Ledbetter  
Registration No. 28,732

Attorney Docket No. 009289-05196  
Dickinson Wright PLLC  
1875 Eye Street, NW, Suite 1200  
Washington, DC 20006  
Telephone: (202) 659-6960  
Facsimile: (202) 659-1559